

REMARKS

Upon entry of this reply, claims 1-3, 7-12, 14 and 16-44 will remain pending. Claims 1, 2, 3, 8, 9 and 10 are independent claims.

Reconsideration and allowance of the application are respectfully requested.

Discussion of Interview

Applicants express appreciation for the courtesies extended by the Examiner during a December 2, 2003 personal interview with Applicants' representative Arnold Turk at the Patent and Trademark Office on December 2, 2003. During the interview, the allowed claims were briefly discussed including the objected to claims to confirm that these claims would be indicated to be allowed claims if placed into independent form.

Regarding the rejection of record, arguments were presented that there is no documentary evidence utilized to support the rejection, that there is no motivation to modify the prior art to arrive at Applicants' invention, and that Applicants' invention provides improved results.

The Examiner agreed with the allowability of the claimed invention and indicated in the Interview Summary form that agreement was reached.

Disclosure Statements

Applicants express appreciation for the return of the Forms PTO-1449 with the Office Action confirming the Examiner's consideration of the disclosure statements filed June 17, 2003 and August 8, 2003, whereby the Examiner's consideration of the Supplemental Information Disclosure Statement is of record.

Response To Indication Of Allowable Subject Matter

Applicants express appreciation for the indication that claims 2, 3, 7-12, 14, 16-18, 25-34 and 36-44 are allowed.

Moreover, Applicants note that claims 19-22 and 24 are objected to for depending upon a rejected base claim, but are otherwise indicated to be allowable over the prior art of record.

However, for the reasons set forth below, Applicants respectfully submit that each of the pending claims is allowable, and allowance of each of the pending claims, i.e., claims 1-3, 7-12, 14 and 16-44, is respectfully requested with the early mailing of the Notices of Allowance and Allowability.

Response To Obviousness Rejection Based Upon JP 10-045,467

Claims 1, 23 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-045,467 (JP '467).

In this ground of rejection, it is asserted that JP '467 is silent to using a spraying method to form the Y_2O_3 containing coating; however, it is contended that claim 1 is drawn to the article, not the method of making. The rejection asserts that absent a teaching of the criticality of the claimed method, it does not provide a patentable distinction over the prior art. It is asserted that it would have been obvious to one of ordinary skill in the art at the time of the invention to have used any suitable method for forming the coating taught by JP '467. The rejection asserts that when there is a substantially similar product, as in the applied prior art, the burden of proof is shifted to the

applicant to establish that their product is patentably distinct not the examiner to show that same process of making.

In response to Applicants' arguments, the Office Action is apparently not giving weight to the fact that the Y₂O₃ is spray coated on the surface of the substrate.

In response, Applicants respectfully submit that independent claim 1 is directed to an internal member for a plasma treating vessel comprising a substrate and a Y₂O₃ sprayed coating covered on a surface thereof. Moreover, dependent claim 23 further defines that the Y₂O₃ sprayed coating consists essentially of Y₂O₃. Still further, dependent claim 35 further defines that the Y₂O₃ sprayed coating consists essentially of Y₂O₃.

Initially, it is pointed out that claim 35 is improperly included in the rejection because it depends upon claim 8 which is not included in the rejection.

Regarding the merits of the rejection, Applicants once again point out that JP '467 discloses as recited in claim 1 thereof, "A corrosive member in which a place exposed to a fluorine-based corrosion gas or its plasma is made of a composite oxide containing a metal of Group 3a in the Periodic Table and Al and/or Si". In particular, the invention disclosed in JP '467 is concerned with the composite oxide of Y and Al and/or Si, but is not directed to a technique of forming a spray-coated film made of Y₂O₃ oxide, or formed consisting essentially of Y₂O₃ coating on the substrate surface.

Further, JP '467 discloses at paragraph [0018], lines 1 to 7 that, "The corrosive member according to the invention is not only the above sintered body, but also may be formed as a thin film on a given surface of a substrate by well-known thin-film forming processes such as PVD

process, CVD process and the like. Also, it may be a thin film formed by applying a liquid phase through a well-known sol-gel process and sintering it. Among them, the sintered body formed by shaping powder and firing is most preferable because it is excellent in the applicability on any members." In JP '467, the sintered body is fundamental, and the member formed by PVD or CVD process is acceptable. JP '467 does not teach or suggest the film formation through a spraying process. Moreover, one having ordinary skill in the art would not have been motivated to utilize a spraying process following the disclosure of JP '467.

As discussed with the Examiner and as previously argued, the rejection merely makes a naked assertion that it would have been obvious to one of ordinary skill in the art at the time of the invention to have used any known method for forming a multiple oxide containing coating, including thermally spraying, in order to have formed a coating which was a sintered compact of oxide materials.

The Examiner is reminded that a rejection must be based upon documentary evidence, and not merely official notice. In this regard, the Examiner's attention is directed to MPEP 2144.03 wherein it is noted that, "If the applicant traverses such an assertion the examiner should cite a reference in support of his or her position." In the instant situation, Applicants respectfully submit that the rejection is improper as not utilizing documentary evidence to support the position taken in the rejection. Thus, Applicants request that the rejection be modified to include documentary evidence supporting the positions taken in the rejections.

Moreover, attention is directed to In re Ahlert and Kruger, 424 F.2d 1088, 165 USPQ 418, 420-421 (CCPA 1970), which is cited in MPEP 2144.03. In Ahlert, at 165 USPQ 421, it is stated that:

Typically, it is found necessary to take notice of facts which may be used to supplement or clarify the teaching of a reference disclosure, perhaps to justify or explain a particular inference to be drawn from the reference teaching. The facts so noticed serve to "fill in the gaps" which might exist in the evidentiary showing made by the examiner to support a particular ground of rejection. We know of no case in which facts judicially noticed comprised the principal evidence upon which a rejection was based or were of such importance as to constitute a new ground of rejection when combined with the other evidence previously used.

In the instant case, the rejection improperly utilizes Official Notice, ~~not to~~ "fill in the gaps", but to provide the complete reasoning behind modification of the primary reference. Accordingly, Applicants submit that it is improper to take Official Notice in the instant case, and a reference must be utilized in the rejection that not only discloses Applicants' recited concept, but also provides motivation for modifying JP '467 to include Applicants' recited features.

Thus, Applicants respectfully submit that the claims are not properly rejectable over the prior art, whereby the rejection of the claims should be withdrawn as being without appropriate basis.

The reason why PVD or CVD process of poor efficiency is disclosed in JP '467 is considered due to the fact that the members used in the plasma treating vessel do not need to withstand a corrosive gas unless it is a dense coating layer, i.e., substantially no pores. In JP '467, it is also considered that the member is peeled off in the plasma treating vessel under severer conditions unless the member is formed by carefully piling the coatings one upon the other according to the PVD or CVD process. That is, JP '467 does not consider a spraying process at all.

In JP '467, therefore, it is not disclosed that (1) the sprayed coating of Y_2O_3 having pores is formed on the substrate surface, and (2) by a spraying process which can produce a coating at a high speed. In this connection, the present invention puts the sprayed coating into practical use as described in the examples. Moreover, attention is directed, for example, to Example 2 wherein the advantages of spray coating are illustrated. Still further attention is directed to page 9, lines 3-6, where it is disclosed that the Y_2O_3 sprayed coating covered on the surface of the member according to the invention is particularly useful for the use under plasma environment generated in an atmosphere containing a halogen compound. Thus, it is seen that Applicants' originally filed disclosure provides unexpected advantages associated with Applicants' Y_2O_3 sprayed coating covered on a surface and its method of product. Therefore, Applicants have established on the record that the product rejected in Applicants' claims is different from the prior art of record, and is produced by a method that is not taught or suggested in the prior art or record. (C) (Y)

Regarding criticality of having a sprayed coating, the Office Action points to Sample No. 7 in Table 2 of Applicants' specification, and contends that the result using PVD for Sample No. 7 is similar to those using a sprayed coating. However, as discussed with the Examiner during the above-noted interview, Sample 7 illustrated in Table 2 which utilizes Y_2O_3 of 99.9% in a PVD surface treatment has a damaged depth through erosion of 6.6 μm in the absence of an undercoat. In contrast, for the same purity of the sprayed material, Sample No. 1 according to the invention which utilizes a spraying surface treatment had a damaged depth through erosion of only 6.1 μm in the absence of an undercoat.

As seen from the above, JP '467 discloses the composite oxide of Y_2O_3 and SiO_2 , but does not disclose a surface coating consisting essentially of Y_2O_3 . Moreover, JP '467 does not teach nor suggest a sprayed coating of Y_2O_3 . This is clear from the description on paragraph [0019] of JP '467 that, "Various materials shown in Tables 1-3 are prepared by using various oxide powders. In Table 1, Sample Nos. 1-5 are prepared by fusing a mixture of rare earth oxide in Table 1 and SiO_2 and/or Al_2O_3 at 2000°C and quenching to conduct vitrification. Sample Nos. 6 and 7 are formed by firing a shaped body of Y_2O_3 and SiO_2 at a given mixing ratio at 1300-1600°C. Sample Nos. 8-13 are formed by firing a shaped body of a mixture of Y_2O_3 and Al_2O_3 in an oxidizing atmosphere or under vacuum at 1600-1900°C. Sample Nos. 14, 15 are formed by firing a shaped body of a mixture of rare earth oxide of Table 1 and Al_2O_3 at 1400-1750°C. Sample Nos. 16, 17 are formed by sputtering process of Sc_2O_3 and Al_2O_3 as a target. Moreover, all of the sintered bodies are densified above a relative density of not less than 95%".

JP '467 does not teach or suggest, amongst other features of Applicants' invention, an internal member for a plasma treating vessel comprising a substrate and a Y_2O_3 sprayed coating covered on a surface thereof or its method of production, as recited in Applicants' claim 1; and the Y_2O_3 sprayed coating consisting essentially of Y_2O_3 , as recited in Applicants' claims 23 and 35.

Moreover, yet additional benefits were discussed with the Examiner during the above-noted interview. In particular, it was noted that JP '467 preferentially relates to a sintered body and therefore has production problems in the manufacturing of members with complicated shapes; a thin film, such as a sprayed coating having a thickness of 100-1000 μm ; and/or large size members. Moreover, even if a thin film can be manufactured following the prior art, it would be

easily broken. In contrast, the spraying process associated with the present invention does not have such manufacturing problems; and is capable of achieving excellent productivity. Similar advantages are associated with Applicants' invention compared to Sample No. 7 in Table 2.

Thus, Applicants respectfully submit that the only teaching or suggestion that would lead one having ordinary skill in the art to arrive at Applicants' invention is within Applicants' disclosure, and the use of such disclosure by the Examiner is improper. In order to support the conclusion that the claimed invention is either anticipated or rendered obvious over the prior art, the prior art must either expressly or inherently teach the claimed invention or the Examiner must present a convincing line of reasoning why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. Ex parte Clapp, 227 U.S.P.Q. 972 (B.O.A. 1985).

Accordingly, the rejections of record should be withdrawn as improper, and all of the claims should be indicated as allowable over the prior art.

Still further, Applicants note that the reasons for allowance of the allowed claims are not limited to the reasons set forth in the Office Action, but are also allowable for other reasons including reasons as set forth above.

CONCLUSION

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections of record, and allow each of the pending claims.

Applicants therefore respectfully request that an early indication of allowance of the application be indicated by the mailing of the Notices of Allowance and Allowability.

Should the Examiner have any questions regarding this application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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